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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,480	03/04/2005	Maria B Winnicka	5504-1124US	1082

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EXAMINER	
KESSLER, CHRISTOPHER S	
ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/526,480	WINNICKA, MARIA B	
	Examiner	Art Unit	
	Christopher Kessler	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/4/05; 7/22/05; 3/17/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,051,139 issued to Eck (hereinafter "Eck"), in view of Applicant's admitted prior art (hereinafter "AAPA").

Regarding claim 1, Eck teaches the invention substantially as claimed. Eck teaches a method of deforming and heat treating ODS refractory alloys (see Abstract, cols. 1-2). Eck teaches that the invention is suitable for molybdenum alloys (see cols. 2-5, Examples, claim 1). Eck teaches that the invention is suitable for sintered alloys (see cols. 1-2), and teaches examples of forming sintered bodies of molybdenum alloys (see Examples 1-2). Eck teaches that the sintered body is mechanically worked to form a semi-finished part or pre-formed part (see cols. 3-4). Eck teaches that the part is heated to a temperature above the recrystallization temperature in order to affect a plurality of intermediate annealing operations (see cols. 2-5), thus meeting the limitations of recrystallizing in the near-finished form, mechanically deforming the part to a finished (pre-formed) form, and recrystallizing in the finished form.

Eck teaches that the amount of deformation is favorably reduced from prior art processes to 3-25% for each deformation step (see cols. 2-3), said range overlapping the range claimed by applicant and establishing a prima facie case of obviousness for that range. It would have been obvious to one of ordinary skill in the art at time of invention to have practiced the process of Eck and to have selected a value for the deformation in the range of 7-18%, because Eck teaches the same utility over that entire range. Applicant is further directed to MPEP 2144.05.

Eck does not teach an example wherein the alloy is molybdenum-lanthana alloy. However, Eck does teach that it is known in the art to add lanthanum oxide to refractory metals to achieve dispersion strengthening (see col. 3).

Applicant has stated that the prior art teaches to prepare ODS lanthana-molybdenum alloys with lanthana content of from 0.1-5 weight percent (see Background of the Invention), said range matching exactly the range as claimed, anticipating that range. AAPA further teaches that the alloys are prepared by sintering and deformation and recrystallization steps (see Background of the invention). It would have been obvious to one of ordinary skill in the art at time of invention to have used a lanthana-molybdenum alloy with 0.1-5.0% lanthana in the invention of Eck, because AAPA teaches that said alloy is desirable for high temperature applications.

Regarding claim 2, Eck teaches that the amount of deformation is favorably reduced from prior art processes to 3-25% for each deformation step (see cols. 2-3), said range overlapping the range claimed by applicant and establishing a prima facie case of obviousness for that range. It would have been obvious to one of ordinary skill

in the art at time of invention to have practiced the process of Eck and to have selected a value for the deformation in the range of 12-17%, because Eck teaches the same utility over that entire range. Applicant is further directed to MPEP 2144.05.

Regarding claim 3, Eck teaches that the recrystallization anneals are performed at temperature of 1300-2100 dependent on the alloy (see cols. 2-5). Thus, the effective recrystallization temperature is a results-effective variable with respect to the recrystallization of the particular alloy being used, and would have been optimized by one of ordinary skill in the art through routine experimentation. Applicant is further directed to MPEP 2144.05.

Regarding claim 4, Eck teaches that the recrystallization anneals are performed at temperature of 1300-2100 dependent on the alloy and that the temperature in the intermediate anneal is then reduced for the second half of the anneal (see cols. 2-5). Thus, the effective recrystallization temperature is a results-effective variable with respect to the recrystallization of the particular alloy being used, and would have been optimized by one of ordinary skill in the art through routine experimentation. Applicant is further directed to MPEP 2144.05.

Regarding claim 5, Eck does not teach wherein the molybdenum-lanthana alloy contains from about 0.4 to about 1.0 weight percent lanthana.

AAPA teaches that the molybdenum-lanthana alloy contains 0.1-5.0 weight percent lanthana (see Background), said range overlapping the range as claimed and establishing a prima facie case of obviousness for that range. It would have been obvious to one of ordinary skill in the art at time of invention to have used a lanthana-

molybdenum alloy with 0.1-5.0% lanthana in the invention of Eck, because AAPA teaches that said alloy is desirable for high temperature applications, and to further have selected a value of lanthana in the range claimed, because AAPA teaches the same utility over that entire range. Applicant is further directed to MPEP 2144.05.

Regarding claim 6, Eck teaches that the deformation is done at hot working temperatures (see cols. 2-5), meeting the limitation wherein the sintered body is subjected to one or more heat treatments during the mechanical working step.

Regarding claim 7, Eck does not teach wherein the molybdenum-lanthana alloy contains from about 0.6 to about 0.7 weight percent lanthana.

AAPA teaches that the molybdenum-lanthana alloy contains 0.1-5.0 weight percent lanthana (see Background), said range overlapping the range as claimed and establishing a prima facie case of obviousness for that range. It would have been obvious to one of ordinary skill in the art at time of invention to have used a lanthana-molybdenum alloy with 0.1-5.0% lanthana in the invention of Eck, because AAPA teaches that said alloy is desirable for high temperature applications, and to further have selected a value of lanthana in the range claimed, because AAPA teaches the same utility over that entire range. Applicant is further directed to MPEP 2144.05.

Regarding claims 8-10, Eck in view of AAPA is applied to the claims as stated above.

Regarding claim 11, Eck teaches the invention substantially as claimed. Eck teaches a method of deforming and heat treating ODS refractory alloys (see Abstract, cols. 1-2). Eck teaches that the invention is suitable for molybdenum alloys (see cols.

2-5, Examples, claim 1). Eck teaches that the invention is suitable for sintered alloys (see cols. 1-2), and teaches examples of forming sintered bodies of molybdenum alloys (see Examples 1-2). Eck teaches that the sintered body is mechanically worked to form a semi-finished part or pre-formed part (see cols. 3-4). Eck teaches that the part is heated to a temperature above the recrystallization temperature in order to affect a plurality of intermediate annealing operations (see cols. 2-5), thus meeting the limitations of recrystallizing in the near-finished form, mechanically deforming the part to a finished (pre-formed) form, and recrystallizing in the finished form.

Eck teaches that the amount of deformation is favorably reduced from prior art processes to 3-25% for each deformation step (see cols. 2-3), said range overlapping the range claimed by applicant and establishing a prima facie case of obviousness for that range. It would have been obvious to one of ordinary skill in the art at time of invention to have practiced the process of Eck and to have selected a value for the deformation in the range of 7-18%, because Eck teaches the same utility over that entire range. Applicant is further directed to MPEP 2144.05.

Eck does not teach an example wherein the alloy is molybdenum-lanthana alloy. However, Eck does teach that it is known in the art to add lanthanum oxide to refractory metals to achieve dispersion strengthening (see col. 3).

Applicant has stated that the prior art teaches to prepare ODS lanthana-molybdenum alloys with lanthana content of from 0.1-5 weight percent (see Background of the Invention), said range matching exactly the range as claimed, anticipating that range. AAPA further teaches that the alloys are prepared by sintering and deformation

and recrystallization steps (see Background of the invention). It would have been obvious to one of ordinary skill in the art at time of invention to have used a lanthana-molybdenum alloy with 0.1-5.0% lanthana in the invention of Eck, because AAPA teaches that said alloy is desirable for high temperature applications.

Regarding claims 12-17, Eck in view of AAPA is applied to the claims as stated above.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. 5,102,474 teaches to process a refractory alloy with a series of intermediate recrystallization anneals and reshaping steps.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Kessler whose telephone number is (571) 272-6510. The examiner can normally be reached on Mon-Fri, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

csk

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